



Foreword

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Foreword

Evolutionary Algorithms are gaining prominence due to their flexibility in handling non-linearity, high dimensionality, and multiobjectiveness in integrated water resources management. Its applications include reservoir operation and capacity planning, ground water optimization, conjunctive use of water resources, and water quality management. In addition, fuzzy logic, Artificial Neural Networks (ANN), deep learning, and data mining techniques are also supplementing/ supporting evolutionary algorithms for obtaining optimal solutions. Keeping this in view, ISH Journal of Hydraulic Engineering, Taylor & Francis, brought out a special issue on Soft Computing in Water Resources Engineering to encourage rigorous, structured out of box research in the area. Case studies implementing field data and development of new approaches/ methodologies are encouraged.

Out of thirty-five manuscripts received for the special volume, papers accepted can be broadly categorized into following themes:

- Genetic Algorithms for the groundwater management, reservoir operation, non-linear root water uptake parameter estimation
- Self-Adaptive Differential Evolution for reliability-based design of water distribution networks
- Particle Swarm Optimization to predict the discharge capacity of cylindrical Weir-Gate, optimal location, and scheduling of booster chlorination stations along with EPANET.
- Fish Shoal Optimization in canal design
- Fuzzy logic for evaluating sustainability and self-purifying capacity of river Ganges and real time forecast

- Neural Networks in regionalization of rainfall, estimation of saturated hydraulic conductivity, sediment yield prediction, lakes extraction from satellite images
- Extreme Learning Machine (ELM), Support Vector Machine (SVM) for estimation of dew point temperature, and deep learning to improve flood estimation

Readers can also find other applications of soft computing techniques in the special volume.

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